AMENDMENTS TO H.R. 5656

OFFERED BY MRS. BIGGERT OF ILLINOIS

Page 2, lines 10, 14, and 18, redesignate paragraphs (3), (4), and (5) as paragraphs (4), (6), and (7), respectively.

Page 2, after line 9, insert the following new paragraph:

(3) the term ''Department'' means the Department of Energy;

Page 2, after line 13, insert the following new paragraph:

(5) the term ''institution of higher education'' has the meaning given that term in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a));

Page 2, line 20, through page 5, line 3, amend section 3 to read as follows:

SEC. 3. FUTUREGEN.

(a) IN GENERAL.—The Secretary shall carry out a project of research, development, and demonstration designed to demonstrate the feasibility of the commercial application of advanced clean coal energy technology, includ-

ing carbon capture and geological sequestration, for electricity generation.

(b) INDUSTRY INVOLVEMENT.—The Secretary may conduct the project through a financial assistance cooperative agreement with a consortium of coal-fired power producers, coal companies, and others.

(c) REQUIREMENTS.—The Secretary shall ensure that—

(1) a FutureGen demonstration facility is operating by 2012;

(2) the FutureGen demonstration facility is designed to be able—

(A) to achieve at least a 99 percent reduction in sulfur dioxide emissions or, when burning coal containing 3 pounds or less of sulfur per million British thermal units, the project shall be able to emit no more than 0.03 pounds of sulfur dioxide emissions per million British thermal units;

(B) to emit no more than 0.05 pounds of nitrogen oxide emissions per million British thermal units;

(C) to achieve at least a 90 percent reduction in mercury emissions;

(D) to emit no more than 0.005 pounds of total particulate emissions in the flue gas per million British thermal units;

(E) to achieve at least a 90 percent reduction in carbon dioxide emissions;

(F) to demonstrate that the technology can be applied to a diversity of United States coal types; and

(G) to demonstrate the feasibility of electricity generation from coal using advanced clean coal technology with carbon capture and geological sequestration at a cost not greater than 10 percent higher than the average of all commercial integrated coal gasification combined cycle electric generating plants operating in the United States as of the date of enactment of this Act.

(d) SYSTEM INTEGRATION.—To reduce technical risk and focus development efforts on system integration, the Secretary shall, to the extent practicable, ensure that the FutureGen demonstration facility is designed to utilize available advanced clean coal technology, as well as first-of-a-kind technology components, as appropriate.

(e) DATA PROTECTION.—The Secretary may agree to protect FutureGen information to the same extent author-

ized for the Clean Coal Power Initiative pursuant to section 402(h) of the Energy Policy Act of 2005 (42 U.S.C. 16231(h)).

(f) CONTRIBUTIONS.—The Secretary may accept contributions from private and public sources, including foreign nations and international contributors, and use such contributions to offset a portion of the Federal share of the project costs.

Page 5, line 4, through page 11, line 4, amend section 4 to read as follows:

SEC. 4. ADVANCED NUCLEAR FUEL CYCLE TECHNOLOGIES RESEARCH, DEVELOPMENT, AND DEMONSTRATION PLAN.

(a) DEFINITION.—In this section, the term ''advanced recycling reactor'' means a nuclear reactor that is capable of significantly reducing the toxicity or radioactivity of spent nuclear fuel components.

(b) SYSTEMS ANALYSIS.—

(1) IN GENERAL.—The Secretary shall develop a comprehensive modeling and simulation capability to enable a thorough analysis of possible advanced nuclear fuel cycle systems. The modeling and simulation capability shall be capable of examining—

(A) all of the components of each advanced nuclear fuel cycle system analyzed, including—

(i) spent fuel separations technologies;

(ii) advanced recycling reactor technologies;

(iii) fuel fabrication technologies;

(iv) advanced thermal reactor technologies, including advanced thermal reactor designs that would be capable of reducing the toxicity or radioactivity of spent nuclear fuel components; and

(v) waste disposal technologies;

(B) the manner in which possible technology and engineering choices for individual components might affect the overall system, and how various system components would interact with one another;

(C) quantitative mass flows of nuclear fuel and spent nuclear fuel, including projected inventories and transportation requirements for nuclear fuel and spent nuclear fuel, for any examined system; and

(D) estimated costs associated with building and operating the examined fuel cycle system, including a comparison with the estimated costs of building and operating a more conventional future fuel cycle system that includes

geologic sequestration of high-level nuclear waste but that does not include recycling of spent fuel components.

(2) ADVANCED NUCLEAR FUEL CYCLE TECHNOLOGIES PLAN.—

(A) ANALYSIS.—The Secretary shall conduct a thorough analysis of more than 1 possible configuration of an advanced nuclear fuel cycle system using the analytical capability developed under paragraph (1). Each analysis of a possible configuration of an advanced nuclear fuel cycle system shall examine—

(i) the compatibility of fuel cycle system components, including each of the system component technologies described in paragraph (1)(A); and

(ii) the degree to which the examined system would—

(I) minimize the toxicity and radioactivity of spent nuclear fuel;

(II) increase the proliferation resistance of commercial nuclear power reactors and their associated fuel systems and infrastructure;

(III) maximize the amount of useful energy that can be extracted from nuclear fuel; and

(IV) minimize the costs of construction and operation of commercial nuclear power reactors and their associated fuel systems and infrastructure.

(B) PLAN.—Using the results of the analyses developed under subparagraph (A), and not later than June 30, 2007, the Secretary shall develop a detailed plan for research, development, and demonstration for advanced nuclear fuel cycle system technologies, including proposed technology options for each of the system component technologies described in paragraph (1)(A) and any proposed engineering-scale demonstrations of such system component technologies. The plan shall include an estimate of the design, engineering, construction, and lifetime operating costs of any proposed engineering-scale demonstration, including decontamination and decommissioning costs. In developing the plan, the Secretary shall consider the integration into an advanced nuclear fuel cycle system of advanced thermal reactors capa-

ble of reducing the toxicity or radioactivity of spent nuclear fuel components.

(C) CONSULTATION.—In developing the plan under subparagraph (B), the Secretary shall consult with—

(i) technical experts from United States and foreign companies that design or engineer nuclear power plants or nuclear fuel reprocessing facilities;

(ii) technical experts from United States electric utilities that operate nuclear power plants;

(iii) economists with expertise in nuclear power and electricity markets;

(iv) the Nuclear Energy Research Advisory Committee;

(v) the Chairman of the Nuclear Regulatory Commission; and

(vi) the Administrator of the Environmental Protection Agency.

(3) NATIONAL ACADEMY OF SCIENCES REVIEW.—The Secretary shall enter into an arrangement with the National Academy of Sciences to conduct a review of the plan developed under paragraph

(2)(B), including by reviewing the validity of the underlying analyses required under paragraph (2)(A).

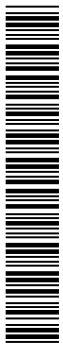
(c) REPORT.—Not later than June 30, 2008, the Secretary shall transmit to Congress a report that includes—

(1) the research, development, and demonstration plan developed under subsection (b)(2)(B), and the report from the National Academy of Sciences on the review conducted under subsection (b)(3);

(2) a revised research, development, and demonstration plan that takes into account the findings, conclusions, and recommendations of the report from the National Academy of Sciences; and

(3) an explanation of any instances where the Secretary does not concur with the findings, conclusions, and recommendations of the report from the National Academy of Sciences.

(d) PROHIBITION.—The Secretary shall not initiate detailed design or construction of any demonstration facility that is capable of processing 750 kilograms or more per year of nuclear fuel or spent nuclear fuel and that is designed to demonstrate the advanced nuclear fuel system component technologies described in subsection (b)(1)(A)(ii) and (iii) until 90 days after the report under subsection (c) has been transmitted to Congress.



Page 11, lines 5 through 24, strike section 5 and redesignate the subsequent sections accordingly.

Page 12, line 4, strike ''liquid'' and insert ''motor and other''.

Page 12, line 19, redesignate subsection (c) as subsection (d).

Page 12, after line 18, insert the following new subsection:

(c) INSTITUTION OF HIGHER EDUCATION GRANTS.—The Secretary shall designate not less than 10 percent of the funds appropriated under subsection (d) for each fiscal year to carry out the program for grants to competitively selected institutions of higher education around the country focused on meeting the objectives stated in subsection (b).

Page 13, lines 12 through 19, strike subsection (c).

Page 16, line 2, strike ''fuel cell vehicles,''.

Page 16, lines 9 through 23, strike paragraphs (4) and (5) and insert the following:

(4) FLEXIBLE FUEL PLUG-IN HYBRID ELECTRIC VEHICLE.—The term ''flexible fuel plug-in hybrid electric vehicle'' means a plug-in hybrid electric vehicle warranted by its manufacturer as capable of

operating on any combination of gasoline or E85 for its onboard internal combustion or heat engine.

Page 16, line 24, and page 17, line 8, redesignate paragraphs (6) and (7) as paragraphs (5) and (6), respectively.

Page 17, line 18, insert ''and electric drive transportation'' after ''hybrid electric vehicles''.

Page 18, line 23, insert ''and public entities'' after ''local governments''.

Page 20, line 9, strike ''entities'' and insert ''or nonprofit entities, which may include institutions of higher education, including Historically Black Colleges and Universities, Hispanic Serving Institutions, and other minority-serving institutions''.

Page 26, line 16, strike ''and''.

Page 26, line 20, strike the period and insert ''; and''.

Page 26, after line 20, insert the following new paragraph:

(9) encourage Historically Black Colleges and Universities, Hispanic Serving Institutions, and other minority-serving institutions to apply for grants under this program.

Page 28, line 9, strike ''of Energy''.

Page 28, lines 20 and 21, amend subparagraph (B) to read as follows:

(B) maximize the leverage of private investment for costs related to increasing the energy efficiency of the building.

Page 28, after line 21, insert the following new paragraph (and redesignate the subsequent paragraphs accordingly):

(3) CONSIDERATION.—The Secretary shall give due consideration to proposals for buildings that are likely to serve low and moderate income populations.

Page 29, line 9, insert '', by a professional engineer or other qualified professional,'' after ''independent certification''.

Page 31, line 5, through page 37, line 19, amend section 13 to read as follows:

SEC. 13. ENERGY TECHNOLOGY TRANSFER.

Section 917 of the Energy Policy Act of 2005 (42 U.S.C. 16197) is amended to read as follows:

''SEC. 917. ADVANCED ENERGY EFFICIENCY TECHNOLOGY TRANSFER CENTERS.

''(a) GRANTS.—Not later than 18 months after the date of enactment of the Energy Research, Development,

Demonstration, and Commercial Application Act of 2006, the Secretary shall make grants to nonprofit institutions, State and local governments, cooperative extension services, or universities (or consortia thereof), to establish a geographically dispersed network of Advanced Energy Efficiency Technology Transfer Centers, to be located in areas the Secretary determines have the greatest need of the services of such Centers. In establishing the network, the Secretary shall consider the special needs and opportunities for increased energy efficiency for manufactured and site-built housing, including construction, renovation, and retrofit. In making awards under this section, the Secretary shall—

''(1) give priority to applicants already operating or partnered with an outreach program capable of transferring knowledge and information about advanced energy efficiency methods and technologies;

''(2) ensure that, to the extent practicable, the program enables the transfer of knowledge and information—

''(A) about a variety of technologies and

''(B) in a variety of geographic areas; and

''(3) give preference to applicants that would significantly expand on or fill a gap in existing programs in a geographical region.

''(b) ACTIVITIES.—Each Center shall operate a program to encourage demonstration and commercial application of advanced energy methods and technologies through education and outreach to building and industrial professionals, and to other individuals and organizations with an interest in efficient energy use. Funds awarded under this section may be used for the following activities:

''(1) Developing and distributing informational materials on technologies that could use energy more efficiently.

''(2) Carrying out demonstrations of advanced energy methods and technologies.

''(3) Developing and conducting seminars, workshops, long-distance learning sessions, and other activities to aid in the dissemination of knowledge and information on technologies that could use energy more efficiently.

''(4) Providing or coordinating onsite energy evaluations, including instruction on the commissioning of building heating and cooling systems, for a wide range of energy end-users.

''(5) Examining the energy efficiency needs of energy end-users to develop recommended research projects for the Department.

''(6) Hiring experts in energy efficient technologies to carry out activities described in paragraphs (1) through (5).

''(c) APPLICATION.—A person seeking a grant under this section shall submit to the Secretary an application in such form and containing such information as the Secretary may require. The Secretary may award a grant under this section to an entity already in existence if the entity is otherwise eligible under this section. The application shall include, at a minimum—

''(1) a description of the applicant's outreach program, and the geographic region it would serve, and of why the program would be capable of transferring knowledge and information about advanced energy technologies that increase efficiency of energy use;

''(2) a description of the activities the applicant would carry out, of the technologies that would be transferred, and of any other organizations that will help facilitate a regional approach to carrying out those activities;

''(3) a description of how the proposed activities would be appropriate to the specific energy needs of the geographic region to be served;

''(4) an estimate of the number and types of energy end-users expected to be reached through such activities; and

''(5) a description of how the applicant will assess the success of the program.

''(d) SELECTION CRITERIA.—The Secretary shall award grants under this section on the basis of the following criteria, at a minimum:

''(1) The ability of the applicant to carry out the proposed activities.

''(2) The extent to which the applicant will coordinate the activities of the Center with other entities as appropriate, such as State and local governments, utilities, universities, and National Laboratories.

''(3) The appropriateness of the applicant's outreach program for carrying out the program described in this section.

''(4) The likelihood that proposed activities could be expanded or used as a model for other areas.

''(e) COST-SHARING.—In carrying out this section, the Secretary shall require cost-sharing in accordance with the requirements of section 988 for commercial application activities.

''(f) DURATION.—

''(1) INITIAL GRANT PERIOD.—A grant awarded under this section shall be for a period of 5 years.

''(2) INITIAL EVALUATION.—Each grantee under this section shall be evaluated during its third year of operation under procedures established by the Secretary to determine if the grantee is accomplishing the purposes of this section described in subsection (a). The Secretary shall terminate any grant that does not receive a positive evaluation. If an evaluation is positive, the Secretary may extend the grant for 3 additional years beyond the original term of the grant.

''(3) ADDITIONAL EXTENSION.—If a grantee receives an extension under paragraph (2), the grantee shall be evaluated again during the second year of the extension. The Secretary shall terminate any grant that does not receive a positive evaluation. If an evaluation is positive, the Secretary may extend the grant for a final additional period of 3 additional years beyond the original extension.

''(4) LIMITATION.—No grantee may receive more than 11 years of support under this section without reapplying for support and competing against all other applicants seeking a grant at that time.

''(g) PROHIBITION.—None of the funds awarded under this section may be used for the construction of facilities.

''(h) DEFINITIONS.—For purposes of this section:

''(1) ADVANCED ENERGY METHODS AND TECHNOLOGIES.—The term 'advanced energy methods and technologies' means all methods and technologies that promote energy efficiency and conservation, including distributed generation technologies, and life-cycle analysis of energy use.

''(2) CENTER.—The term 'Center' means an Advanced Energy Technology Transfer Center established pursuant to this section.

''(3) DISTRIBUTED GENERATION.—The term 'distributed generation' means an electric power generation technology, including photovoltaic, small wind and micro-combined heat and power, that is designed to serve retail electric consumers on-site.

''(4) COOPERATIVE EXTENSION.—The term 'Cooperative Extension' means the extension services

established at the land-grant colleges and universities under the Smith-Lever Act of May 8, 1914.

''(5) LAND-GRANT COLLEGES AND UNIVERSITIES.—The term 'land-grant colleges and universities' means—

''(A) 1862 Institutions (as defined in section 2 of the Agricultural Research, Extension, and Education Reform Act of 1998 (7 U.S.C. 7601));

''(B) 1890 Institutions (as defined in section 2 of that Act); and

''(C) 1994 Institutions (as defined in section 2 of that Act).

''(i) AUTHORIZATION OF APPROPRIATIONS.—In addition to amounts otherwise authorized to be appropriated in section 911, there are authorized to be appropriated for the program under this section such sums as may be appropriated.''.

Page 38, line 7, strike ''of Energy''.

Page 38, line 22, strike ''of Energy''.

Page 41, line 8, strike ''of Energy''.